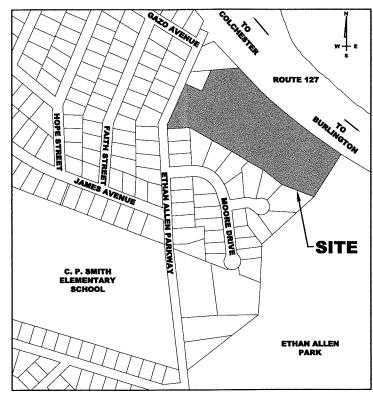
# P:\2007\07028-2014\dwq\07028-title.dwq, 12/10/2015 12:48:51 PM

# LIAHONA WAY

# A 9 UNIT NEIGHBORHOOD

ETHAN ALLEN PARKWAY BURLINGTON, VERMONT



LOCATION PLAN

# SHEET INDEX

- 1 OVERALL SITE PLAN
- 2 EXISTING CONDITIONS SITE PLAN
- 3 WETLANDS PLAN
- 4 SITE AND UTILITY PLAN
- 5 LANDSCAPING AND GRADING PLAN
- 6 LIGHTING GRID PLAN
- 7 DRIVE PROFILE, TYPICALS & SPECIFICATIONS

# DETAILS AND SPECIFICATIONS

- SANITARY AND STORM SEWER
- 9 LANDSCAPING AND EROSION
- 10 WATER
- 11 EROSION PREVENTION & SEDIMENT CONTROL PLAN

# **OWNERS/APPLICANTS:**

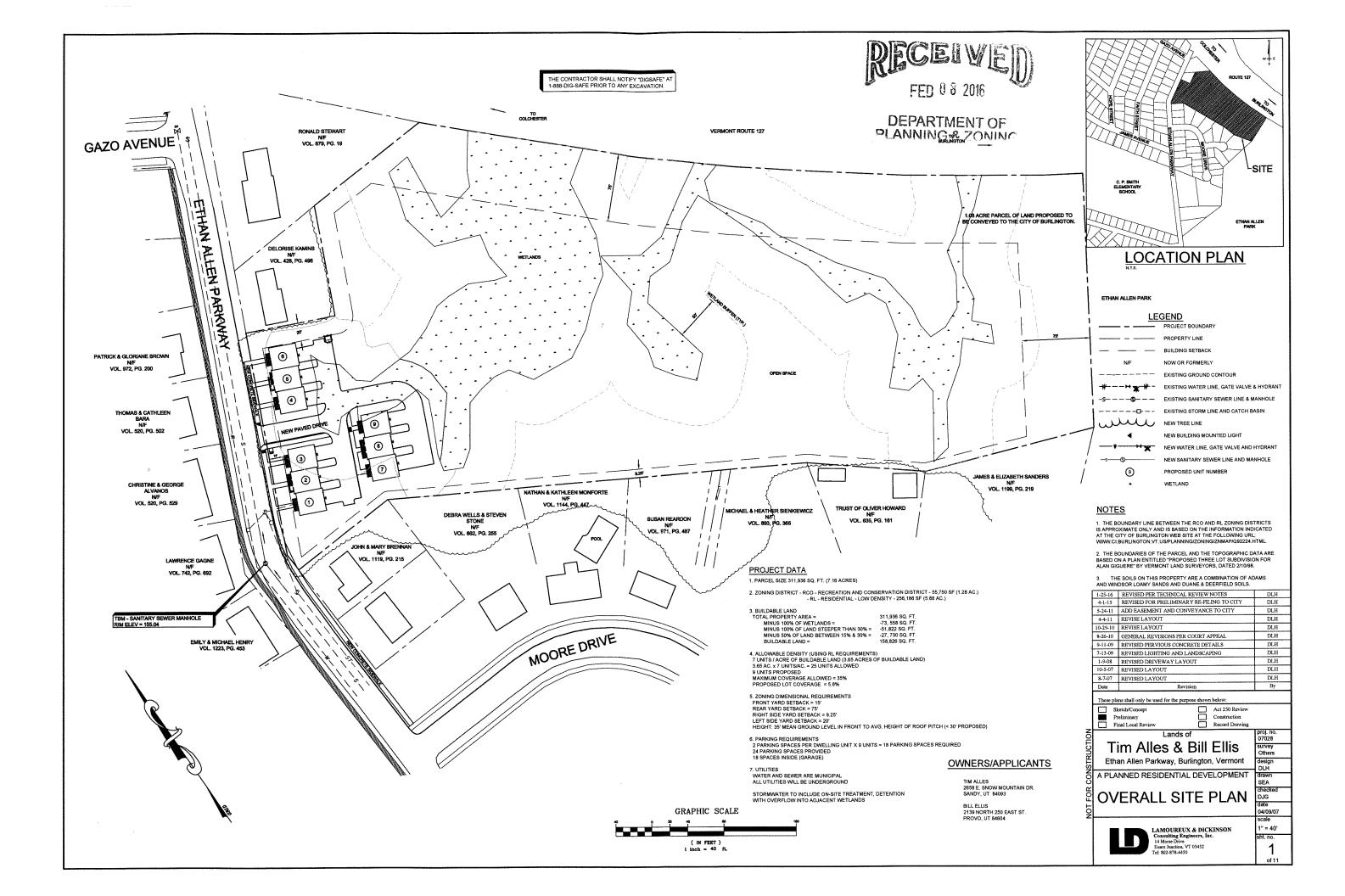
TIMOTHY G. ALLES 2658 E. SNOW MOUNTAIN DR. SANDY, UT 84093

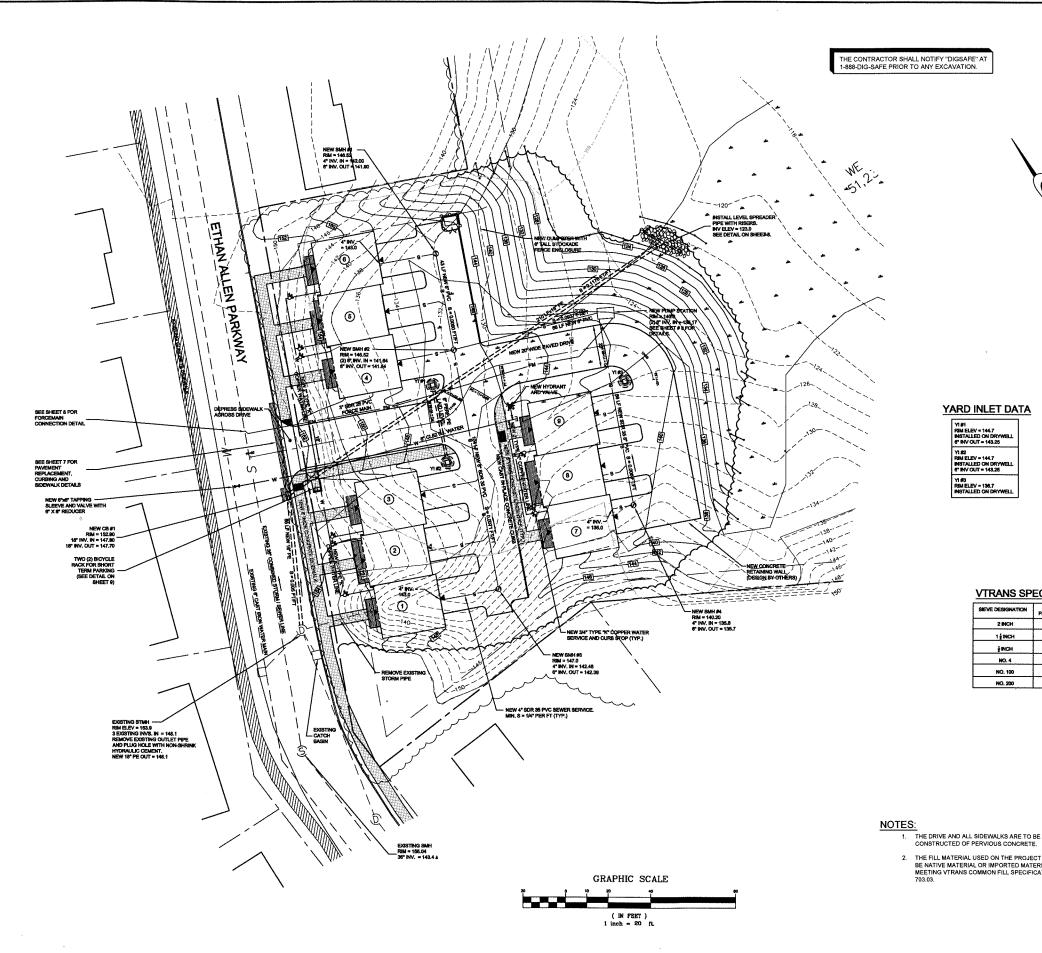
WILLIAM E. ELLIS 800 S. MAIN ST. PLEASANT GROVE, UT 84062













DEPARTMENT OF PLANNING & ZONING

### YARD INLET DATA

YI#1 RIM ELEV = 144.7 INSTALLED ON DRYWELL 6" INV OUT = 143.25	
YI #2 RIM ELEV = 144.7 INSTALLED ON DRYWELL 6" INV OUT = 143.25	
YI #3 RIM ELEV = 136.7 INSTALLED ON DRYWELL	

### VTRANS SPECIFICATION 703 03

V I FOAING OF	VIRANS SPECIFICATION /03.03				
SIEVE DESIGNATION	PERCENTAGE BY WEIGHT PASSING SQUARE MESH SCREEN				
2 INCH	100				
1 ∦ INCH	90 TO 100				
∳INCH	70 TO 100				
NO. 4	80 TO 100				
NO, 100	0 TO 20				
NO. 200	G TO 8				

- THE FILL MATERIAL USED ON THE PROJECT SHALL BE NATIVE MATERIAL OR IMPORTED MATERIAL MEETING VIRANS COMMON FILL SPECIFICATION 703.03.

# LEGEND

<u>LE</u>	<u>GEND</u>
	PROJECT BOUNDARY
	PROPERTY LINE
	BUILDING SETBACK
N/F	NOW OR FORMERLY
	EXISTING GROUND CONTOUR
-₩₩ <b>*</b> -₩-	EXISTING WATER LINE, GATE VALVE & HYDRANT
-s <b>-s</b>	EXISTING SANITARY SEWER LINE & MANHOLE
	EXISTING STORM LINE AND CATCH BASIN
www	NEW TREE LINE
∢	NEW BUILDING MOUNTED LIGHT
<del></del>	NEW WATER LINE, GATE VALVE AND HYDRANT
—s	NEW SANITARY SEWER LINE AND MANHOLE
(i)=======	NEW STORM LINE AND DRY WELL
9	PROPOSED UNIT NUMBER
AB 1	ING NUMBER AUGER BORING LOCATION

Date	Dattinion	Rv
8-7-07	REVISED LAYOUT	DLH
10-5-07	REVISED LAYOUT	DLH
1-9-08	REVISED DRIVEWAY LAYOUT	DLH
7-13-09	REVISED LIGHTING AND LANDSCAPING	DLH
9-11-09	REVISED PERVIOUS CONCRETE DETAILS	DLH
8-26-10	GENERAL REVISIONS PER COURT APPEAL	DLH
10-29-10	REVISE LAYOUT	DLH
4-4-11	REVISE LAYOUT	DLH
5-24-11	ADD EASEMENT AND CONVEYANCE TO CITY	DLH
4-1-15	REVISED FOR PRELIMINARY RE-FILING TO CITY	DLH
1-25-16	REVISED PER TECHNICAL REVIEW NOTES	DLH

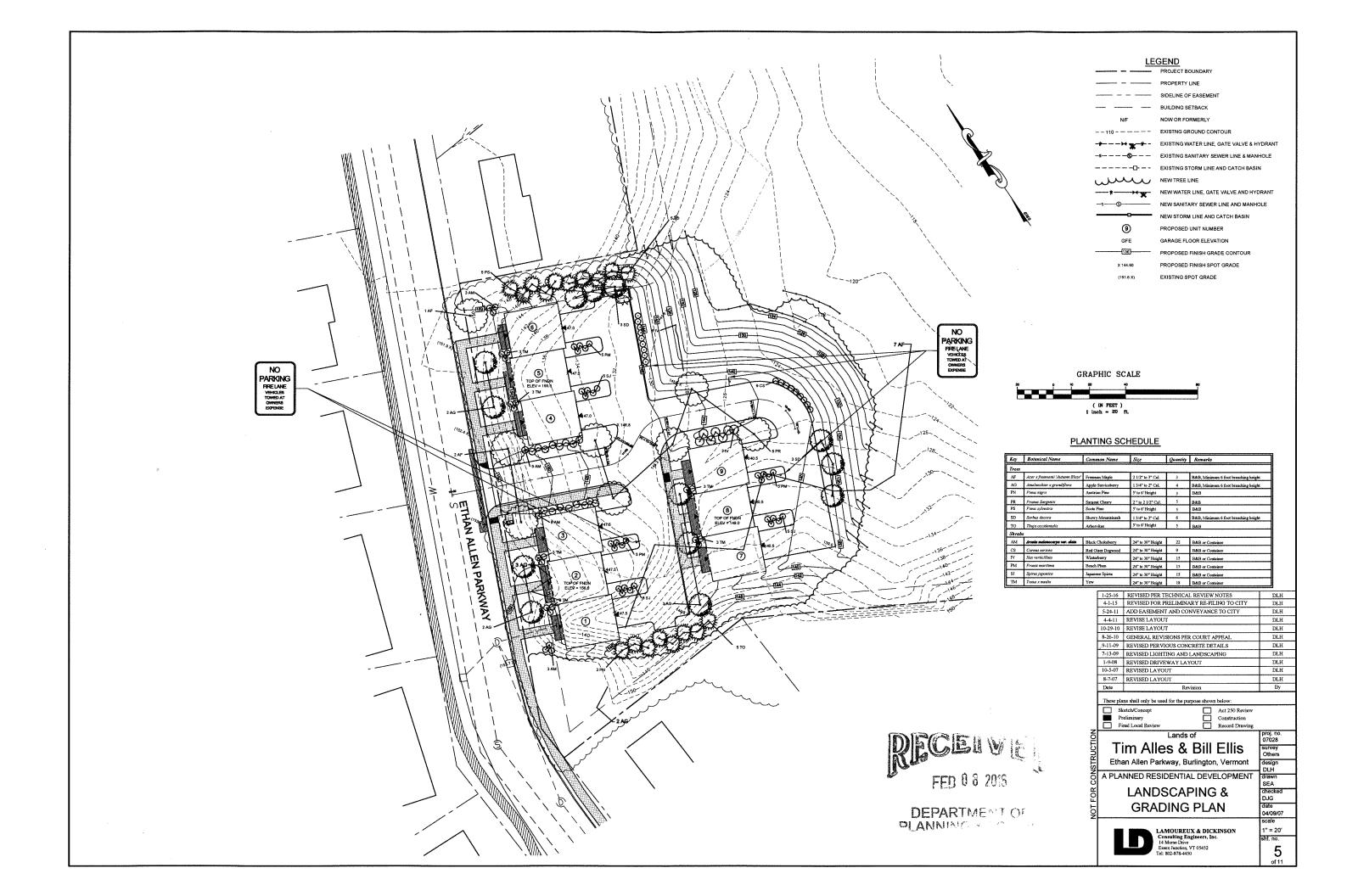
Date		Revision		Dy
These	plans shall only be used for th	ne purpose show	below:	
	Sketch/Concept		Act 250 Review	
	Preliminary		Construction	
	Final Local Review		Record Drawing	

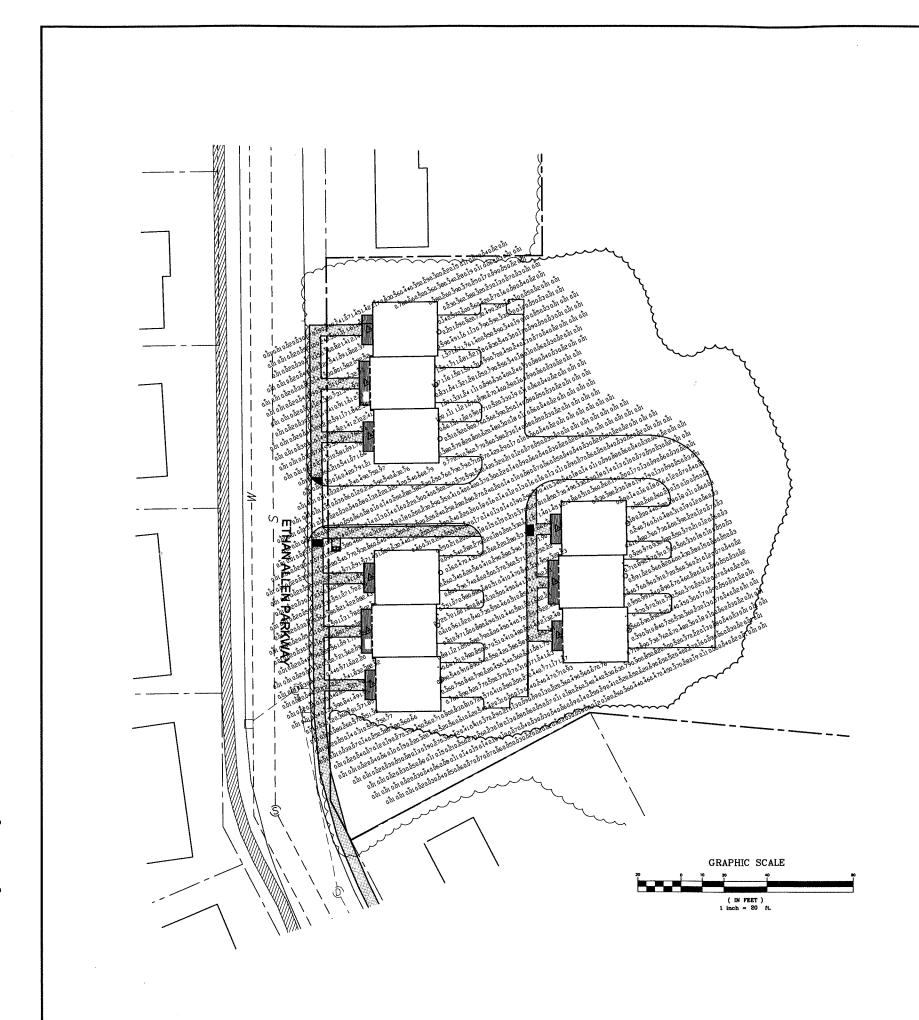
Tim Alles & Bill Ellis Ethan Allen Parkway, Burlington, Vermont A PLANNED RESIDENTIAL DEVELOPMENT

SITE & UTILITY **PLAN** 



1" = 20'



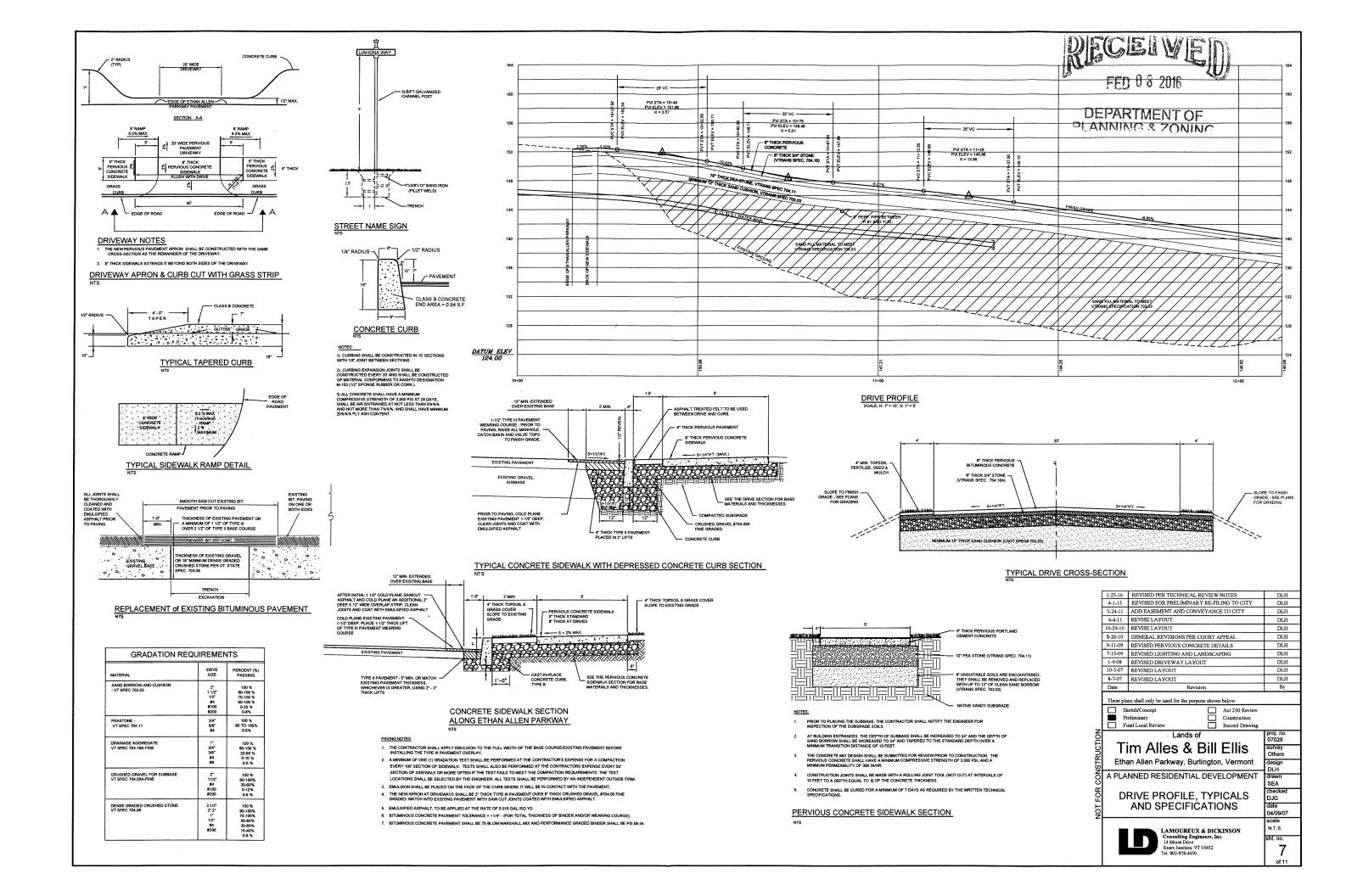


#PTS	SPACING	AVE	MAX	MIN	MAX/MIN	AVE/MIN
1601	5'	0.57	2.76	0.01	549.46	114 27

EUIS/AII	es (07028)	LUMINAIRE SCHEDULE	EL AND	HIMENO	пте	IAT.
RND	Δ	RAB LIGHTING, I (1) "RNDL" WBLEDR18 (ROUND WALL MOUNT) / BLEDR18 (42" ROUND B	(3)	1240	1.00	9
RND2	0	RAB LIGHTING, I (1) "RNDL" WBLEDR18 (ROUND WALL MOUNT) / BLEDR18 (42" ROUND B	(3)	1240	1.00	9

 $_{0,2}^{\star}$  LIGHTING SPOT LEVEL (IN FOOT CANDLES)

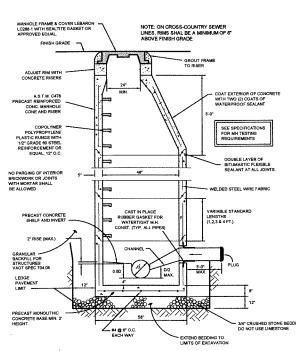
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5-24-11	ADD EASEMENT AND C	DLH		
4-4-11	REVISE LAYOUT	DLH		
10-29-10	REVISE LAYOUT	DLH		
8-26-10	GENERAL REVISIONS P	ER COURT	APPEAL	DLH
9-11-09	REVISED PERVIOUS CO	NCRETE DE	TAILS	DLH
7-13-09	REVISED LIGHTING AN		PING	DLH
1-9-08	REVISED DRIVEWAY LA	AYOUT		DLH
10-5-07	REVISED LAYOUT			DLH
8-7-07	REVISED LAYOUT			DLH
Date	R	evision		By
	cetch/Concept	님	Act 250 Rev.	
	reliminary nal Local Review		Record Draw	
		s of		ving proj. no.
☐ Fi	nal Local Review		Record Draw	ving
Ti	nal Local Review Lands	Bill	Record Draw	proj. no. 07028 survey Others
Ti	Lands Lands im Alles &	Bill	Ellis	proj. no. 07028 survey Others design DLH drawn
Ti	inal Local Review Lands im Alles & an Allen Parkway, E	Bill	Ellis	proj. no. 07028 survey Others t design DLH drawn SEA
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Ti Etha	Lands Review  Lands Manual Local Review  Lands Manual Lands & Lands Manual Lands Residential Lands Res	BIII Burlingtor AL DEVI RID PL  UX & DIC Engineers, In  VY 105452	Ellis  , Vermon  ELOPMEN  AN	t design DLH drawn SEA Checked DJG date 04/09/07 scale 1" = 20'



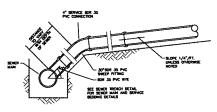
- THE CONTRACTOR SHALL CONTACT ALL UTILITIES BEFORE EXCAVATION TO VERIFY THE LOCATION OF ANY
  LINDERGROUND LINES. THE CONTRACTOR SHALL NOTIFY DISSAFE: AT 1-888-344-7233 (1-888-20IG SAFE) & THE
  CITY OF BURLINGTON AT (100):998-5930 PRIOR OF ANY EXCAVATION.
- 3. UTILITIES INFORMATION SHOWN HEREON WERE OBTAINED FROM BEST AVAILABLE SOURCES AND MAY OR MAY NOT BE EITHER ACCURATE OR COMPLETE. THE CONTRACTOR SHALL VERBY THE EXACT LOCATION OF EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY LILITY, PUBLIC OR RIVIATE, SHOWN OR NOT SHOWN HEREON. THE CONTRACTOR SHALL CONNECT OR RECONNECT ALL UTILITIES TO THE NAMEST SOURCE THROUGH COORDINATION WITH UTILITY OWNER.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND REMOVAL OF ALL EXISTING SURFACES, SOILS, VEGETATION, PAVEMENT AND STRUCTURES NECESSARY TO CONSTRUCT THIS PROJECT LINLESS OTHERWISE NOTED ON THESE PLANS. THE CONTRACTOR SHALL REMOVE ALL EXCESS MATERIAL DEBRIS AND TRASH FROM THE SITE UPON COMPLETION OF CONSTRUCTION, UNLESS OTHERWISE DIRECTED BY THE EMPIREE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE DUST CREATED AS A RESULT OF CONSTRUCTION DOES NOT CREATE A NUISANCE OR A SAFETY HAZARD. WHERE AND WHEN DEEMED NECESSARY BY THE ENRINBER OR OWNER. THE CONTRACTOR SHALL BE REQUIRED TO WET SECTION THE CONSTRUCTION AREA WITH WATER. APPLY CALCIUM CHLORIDE OR SWEEP ASPHALT ROADS WIT POWER BROOM AS DUST CONTROL.
- ANY SURFACES, LINES, OR STRUCTURES WHICH HAVE BEEN DAMAGED BY THE CONTRACTOR'S OPE SHALL BE RESTORED TO THE GONONTION AT LEAST EQUAL. TO THAT IN WHICH THEY WERE FOUND IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS.
- CONSTRUCTION OBSERVATION AND CERTIFICATION IS OFTEN REQUIRED AS A CONDITION OF STATE AND LOCAL PERMITS, IT IS RECOMMENDED THAT CONSTRUCTION OF THE IMPROVEMENTS DETAILED ON THESE PLANS BE OSSERVED BY LAMOUREUS AS DICKINSON CONSULTING ENNIEMERS INC. (ALD, TO DETERMINE IT THE WORK IS BEING PERFORMED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. L.SD WAINES ANY AND ALL RESPONSIBILITY AND LIBILITY FOR PROBLEMS THAT MY ARISE FROM FAILURE TO FOLLOW THESE PLANS AND SPECIFICATIONS AND THE DESIGN INTENT THAT THEY CONVEY, ANY CHANGES MADE IN THE PLANS AND SPECIFICATIONS OR IN THE CONSTRUCTION OF THE PROPOSED IMPROVINCEMENTS WITHOUT LED'S PROR INDUMENTS AND THE CONSIDERATION OF THE WORK AND TESTING IN PROGRESS.
- 8. FOR ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY A MINIMUM OF ONE-WAY TRAFFIC SHALL BE MAINTAINED.
  ALL TIMES, CONTINUOUS TWO-WAY TRAFFIC WILL BE REQUIRED AT NIGHT, DURING PEAK-HOURS, AND
  WIENEVER POSSIBLE DURING ACTUAL CONSTRUCTION ACTIVITIES. TEMPORARY CONSTRUCTION SIGNS
  AND TRAFFIC CONTROL SIGNS SHALL BE ERECTED BY THE CONTRACTOR IN ACCORDANCE WITH STATE AND
  CITY STANDARDS.
- TOPSOIL SHALL BE STOCKPILED, SEEDED, AND MULCHED UNTIL REUSED. SILT FENCE SHALL BE PLACED AND STAKED CONTINUOUSLY AROUND THE DOWNSLOPE PERIMETER OF THE TOPSOIL PILES.
- 11. HEALTHY EXISTING TREES AS SHOWN ON THE SITE PLAN TO BE SAVED SHALL BE PROTECTED BY THE CONTRACTOR.
- 12. OPEN CUT AREAS SHALL BE MULCHED OUTSIDE OF ACTUAL WORK AREAS, AND SILT FENCE SHALL BE EMPLOYED TO CONFINE SHEET WASH AND RUNOFF TO THE IMMEDIATE OPEN AREA AS ORDERED BY THE ENGINEER.
- AT COMPLETION OF GRADING, SLOPES, DITCHES, AND ALL DISTURBED AREAS SHALL BE SMOOTH AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.

### SANITARY & STORM SPECIFICATIONS

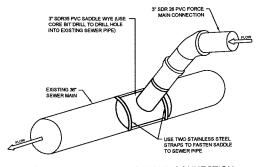
- 1) SANITARY AND STORM SEWER PIPES SHALL BE OF THE SIZE AND TYPE INDICATED ON THE PLANS, PVC PIPE SHALL BE SDR 35 CONFORMING TO ASTM D-3034, ASTM D-3212, AND ASTM F-477. CORRUGATED METAL PIPE SHALL CONFORM TO AASHTO M-199 FOR ACCOMP PIPE AND ASHTO M-26 TYPE FOR PCY-WINEDIC COATED STEEL PIPE. CORRUGATED POLYETHYLENE PIPE SHALL CONFORM TO AASHTO M294, TYPE S (SMOOTH LINEDIC PIPE SHALL CONFORM TO AASHTO M294, TYPE S (SMOOTH LINEDIC PIPE SHALL CONFORM TO AASHTO M294, TYPE S (SMOOTH LINEDIC PIPE SHALL CONFORM TO AASHTO M294.
- 2) ALL NEW GRAVITY SANTARY SEWER MAINS SHALL BE LEAK TESTED BY A LOW PRESSURE AIR TEST AND DEFLECTION TESTED. THE LOW PRESSURE AIR TEST WILL BE USED TO SIMILATE INFILITATION OR EXPITEMATION INTO OR OUT OF ALL GRAVITY SANTARY SEWERS. ALL TESTING WILL BE CONDUCTED UNDER THE SUPERVISION OF, THE ENGINEER. AIR TESTING SHALL BE PERFORMED IN ACCORDANCE WITH ASTM C228-0. THE MINIMAM ALLOWED THIS FOR A PRESSURE DOF PROM 3.5 PIG 1.2 SPS ISHALL BE 1.2 MINITES PER 100 FEBT OF SEWER. AFTER THE FINAL BACKPILL HAS BEEN IN PLACE AT LEAST 30 DAYS. THE DEFLECTION TEST TIR MINISH A MINISH ALL OF MANDEY. IT FOR ALL HAVE A DAMETER ECOL. TO 59% OF THE INSIDE DAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES. ALL MANHOLD AND PIPEL IN METERALS. METHODS AND TESTING SHALL BE IN ACCORDANCE WITH CITY AND STATE STANDARDS AND THESE PLANS.
- 3) ALL SANITARY SEWER MANHOLES SHALL BE TESTED PRIOR TO CONSTRUCTION OF THE INVERT BY THE VACULAM TEST METHOD DESCRIBED IN THE TECHNICAL SPECIFICATIONS. FOR MANHOLES UP TO 10 DEEP THE MINIMUM ALLOWED THIME FOR A VACULAM PROP FROM 10 TO 90 OF MERCIRY SHALL BE 2 MINIMUTES. FOR MANHOLES GREATER THAN 10' DEEP THE MINIMUM ALLOWED TIME SHALL BE 2 MINUTES AND 30 SECONDS.



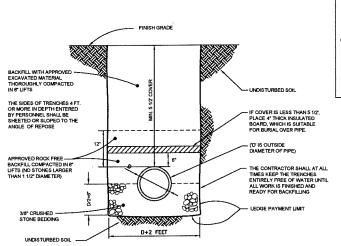
TYPICAL PRECAST SANITARY / STORM MANHOLE



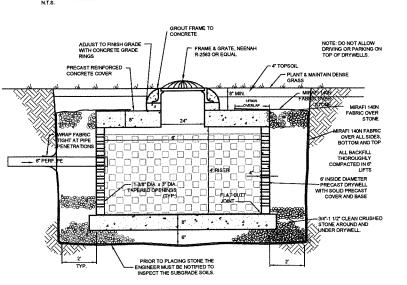
SANITARY SEWER SERVICE CONNECTION



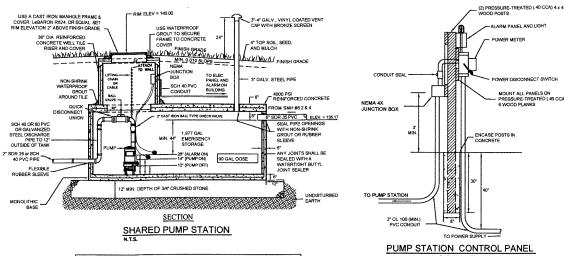
SANITARY SEWER FORCE MAIN CONNECTION INTO EXISTING SEWER MAIN



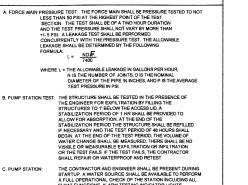
TYPICAL SANITARY & STORM SEWER TRENCH



STORMWATER DRYWELL DETAIL NTS

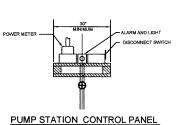


SIDE VIEW TESTING DATA



THE CONTROL SYSTEM SHALL BE CYCLED THROUGH MORE THAN ONCE TO INSURE PROPER SEQUENCING AND OPERATION OF THE PUMPS. THE PUMP SHALL SEFIELD TESTED TO JUSTICE THE PUMPING CAPACITY MEETS THE PROJECT REQUIREMENTS.

OUTFALL PIPE, SIZE VARIE VTRANS TYPE 1 STONE WITH NO FINES KEYED 18" MIN, INTO EXISTING GROUND. SIZE OF PAD TO BE AS SHOWN ON PLAN VIEW



TOP VIEW

WITH 12 HR/DAY FLOWRATE = 3 GPM DAILY FLOW = 1,977 GPD DOSE VOLUME FOR 30 MIN. MAXIMUM RETENTION TIME IS 3 GPM X 30 MINUTES = 90 GALLON DOSE.

E. ELECTRICAL/CONTROLS: ALL ELECTRIC WIRING SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE

F. FLOATS: MERCURY SWITCH TO BE COMPLETELY SEALED, MADE OF CORROSIVE RESISTAN SOLUTION AND INTRINSICALLY SAFE. ELECTRICAL CABLE TO BE FLEXIBLE TWO CONDUCTOR WITH REOPRENE JACKET.

PUMP STATION DATA

THE PUMP STATION TANK SHALL HAVE SUFFICIENT CAPACITY TO ACCOMMODATE THE REQUIRED PUMP, THE SPECIFIED DOSE VOLUME, AND THE NECESSARY EMERGENCY STORAGE VOLUME.

THE TANK SHALL HAVE SUFFICIENT CAPACITY FOR THE SPECIFIED DOSE AND EMER STORAGE VOLUMES.

1,977 GPD

2. LAMOUREUX & DICKINSON RECOMMENDS THE USE OF A WATERTIGHT, STEEL REINFORCED, 4,000 PS; 172 \* 144" (LD). CONCRETE TANK CONSTRUCTED TO WITHSTAND EARTH LOADING, HOMEVER, THE COMMER, AT HISHER OWN DISCRETION, MAY USE AN ALTERNATIVE STRUCTURE IN CONFORMANCE WITH THE VERMONT ENVIRONMENTAL PROTECTION RULES.

IF LEDGE IS ENCOUNTERED AT A DEPTH INSUFFICIENT TO ACCOMMODATE THE SPECIFIED TANK, THE ONTRACTOR SHALL CONTACT THE ENGINEER FOR ALTERNATE STRUCTURE RECOMMENDATIONS.

87 GPD

PUMP STATION SPECIFICATIONS

PUMP STATION DESIGN COMPUTATIONS: A. DAILY FLOW (BASED ON EPR DESIGN FLOWS):

TOTAL FLOW

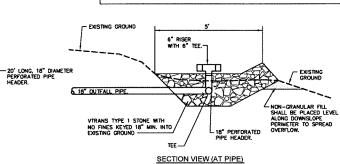
C. HEAD LOSSES

G. DOSE DESIGN

DESIGN FLOW FROM 9 UNITS (210 GPD/UNIT) SEWER MAIN INFILTRATION 87 GPD

1,977 GPD == 2.1 GPM 16 HR/DAY x 50 MIN/HR

I SUBMITTALS REQUIRED: PUMP, ACCESS LID, WETWELL,
FLOATS AND FLOAT HANGER BRACKET, CHECK VALVES, GATE
VALVES, SOLID SLEVYE COUPLINGS, AND OPERATION AND
MAINTENANCE MANUALS.



4-4-11 REVISE LAYOUT 10-29-10 REVISE LAYOUT

8-7-07 REVISED LAYOUT

Sketch/Concept
Preliminary

LEVEL SPREADER DETAIL FINISH GRADE -PRECAST CATCH BASIN

Tim Alles & Bill Ellis Ethan Allen Parkway, Burlington, Vermont A PLANNED RESIDENTIAL DEVELOPMENT SANITARY & STORM SEWER DETAILS AND **SPECIFICATIONS** 



LAMOUREUX & DICKINSON Consulting Engineers, Inc. 14 Morse Drive Essex Junction, VT 05452

4-1-15 REVISED FOR PRELIMINARY RE-FILING TO CITY DLH

Act 250 Review
Construction

DLH

DLH

DLH

DLH DLH

DLH

SEA

DJG

04/09/07

8

5-24-11 ADD EASEMENT AND CONVEYANCE TO CITY

8-26-10 GENERAL REVISIONS PER COURT APPEAL

9-11-09 REVISED PERVIOUS CONCRETE DETAILS

7-13-09 REVISED LIGHTING AND LANDSCAPING

These plans shall only be used for the purpose shown below:

1-9-08 REVISED DRIVEWAY LAYOUT 10-5-07 REVISED LAYOUT

-2014\dwg\07028-8.dwg,

### LANDSCAPE SPECIFICATIONS

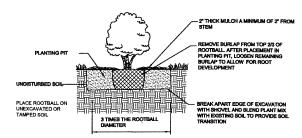
- ALL PLANT MATERIALS SHALL CONFORM TO THE INTERNATIONAL SOCIETY OF ARBORICULTURE. PRINCIPALS AND PRACTICES OF PLANTING TREES AND SHRUBS, AND THE MOST RECENT VERSION OF THE AMERICAN STANDARD FOR NURSERY STOCK AND ISOS.
- CONTRACTOR SHALL STAKE ALL PLANT LOCATIONS AND THE ENGINEER SHALL APPROVE PRIOR TO INSTALLATION.
- CONTRACTOR SHALL PROTECT LANDSCAPE PLANTS AT ALL TIMES FROM SUN AND DRYING WINDS. PLANTS THAT ARE TO BE TEMPORARILY STORED ON SITE LATIF. READY FOR INSTALLATIONS SHALL BE KEPT SHADED AND PROTECTED WITH SOIL, BARK MILLOH ON OTHER ACCEPTABLE MATERIAL AND REQUARANT WATERED.
- DURING INSTALLATION OF LANDSCAPE PLANTINGS, CONTRACTOR SHALL DETERMINE WHERE EXISTING UNDERGROUND UTILITIES ARE LOCATED TO AVOID INTERFERENCE.
- STREET TREES TO ARRIVE FROM NURSERY WITH 6 FEET/2 METERS BETWEEN THE FINISHED GRADE AND THE FIRST TREE BRANCH.
- DO NOT PRUNE THE TREES OR SHRUBS AT PLANTING. PRUNE ONLY DEAD OR CRUSHED ROOTS AND DEAD OR INJURED BRANCHES.
- EACH TREE AND SHRUB MUST BE PLANTED SUCH THAT THE ROOT FLARE AND MAIN ORDER ROOTS ARE VISIBLE AT THE TOP OF THE ROOT BALL. WHERE THE MAIN ORDER ROOTS ARE NOT VISIBLE, EXCESS SOIL SHALL BE REMOVED TO LOCATE THEM, PLANT TREES AND SHRUBS SO THAT THE MAIN ORDER ROOTS ARE AT FINISHED GRADE, DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL OR MULCH.
- EXAMINE ENTIRE TREE AND SHRUB AND REMOVE ALL NURSERY TAGS, TREE WRAP, ROPE, STRING AND SURVEYOR TAPE PRIOR TO PLANTING TO PREVENT GIRDLING.
- FOR ALL TREES AND SHRUBS:
  CUT AND REMOVE WIRE MESH BASKET. CUT AND REMOVE ROPE AND BURLAP WRAP FROM TOP 23 OF ROOTBALL
  AFTER PIACEMENT IN PLANTING PIT. LOOSEN REMAINING BURLAP TO ALLOW FOR ROOT DEVELOPMENT. IF THE
  TREE OR SHRUB HAS SYNTHETIC OR TREATED BURLAP, REMOVE IT ENTIRELY AFTER PLACING ROOT BALL IN
  PLANTING PIT.
- BREAK APART EDGE OF EXCAVATION WITH SHOVEL AND BLEND PLANT MIX WITH EXISTING SOIL TO PROVIDE SOIL
- TREE PIT AREA SHALL HAVE A MINIMUM DEPTH OF 36". SHRUB PLANTING PIT SHALL HAVE A 24" MINIMUM DEPTH. THE TREE PIT AREA SHALL HAVE THE PLANT MIX SPECIFIEDBELOW.
- STAKING REQUIRED ONLY IN SITUATIONS WHERE TREES WILL BE SUBJECTED TO WINDY CONDITIONS AS DETERMINED BY THE ENGINEER, STAKES SHALL BE REMOVED BY THE CONTRACTOR AT THE END OF THE WARRANTY PERIOD.
- PLANT MIX SHALL CONSIST OF THE FOLLOWING RATIO: 1/3 PART COMPOST, 2/3 PARTS TOPSOIL PLANT MIX TO BE TESTED AND APPROVED FOR QUALITY BY ENGINEER PRIOR TO INSTALLATION. THE CORRECT GRADE OF COMPOST IS AVAILABLE FROM JUST NOT LIMITED TO. THE FOLLOWING MANUFACTURERS: INTERVALE COMPOST PRODUCTS, VERMONT NATURAL PRODUCTS AND VERMONT COMPOST COMPANY.
- FOLLOWING PLANTING, FERTILIZER AND MYCORRHIZAL FUNGI SHALL BE APPLIED TO TREES AND SHRUBS.
- ONCE ALL LANDSCAPE PLANTINGS HAVE BEEN INSTALLED, PLACE A LIGHT LAYER OF HEMLOCK OR PINE BARK MULCH; MAXIMUM OF 2" THICK, ON PLANTING BEDS. NO DYED MULCH WILL BE ACCEPTED.
- WATER ALL TREES AND SHRUBS THOROUGHLY ONCE PLANTED TO PUAL SOILS AGAINST ROOT BALL AND SETTLE AIR POCKETS. ADDITIONAL SOIL MAY BE NEEDED: WATER AGAIN TO ENSURE COMPLETE COMPACTION, RE-SET SETTLED PLANTS TO PROPER BADE AND POSITION, RESTORE ADJACENT MATERIAL AND REMOVE DEAD MATERIAL THERE SHALL BE NO WATERING BERM INSTALLED AROUND PLANTS.
- CORRECT WORK AS SOON AS POSSIBLE AFTER DEFICIENCIES BECOME APPARENT AND WEATHER PERMITS
- CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL LANDSCAPE PLANTINGS AND SHALL INCLUDE PRUNING, CULTIVATING, WEEDING, WATERING, AND APPLICATION OF APPROPRIATE INSECTIODES AND FUNGICIDES NECESSARY TO MAINTAIN PLANTS FER
- ALL LANDSCAPE PLANTS SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS AFTER PLANTING

# TURF ESTABLISHMENT

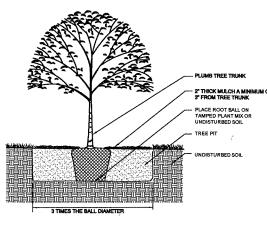
ALL DISTURBED AREAS THAT DO NOT HAVE AN IMPERVIOUS SURFACE (PAVEMENT, SIDEWALKS, ROOFS) SHALL BE STABILIZED WITH SECRING AND MALCHING PROR TO OCTOBER 1. ANY WORK PERFORMED AT THE SEPTEMBERT IS OF EACH LESS (FABLICED WITH MACHON FOR INTINIS SUPPLICIENT TO PREVIOUS PROGROMAD SHALL BE AND SHALL BE SHALL BE SHALL BE WITH A SOCIAL SHALL BE SHALL BE SHALL BE SHALL BE WITH A SOCIAL SHALL BE SHA

- A MINIMUM OF 4" OF APPROVED TOPSOIL SHALL BE PLACED IN ALL AREAS, PLACEMENT OF TOPSOIL SHALL NOT BE DONE WHEN THE GROUND OR TOPSOIL IS FROZEN, EXCESSIVELY WET, OR OTHERWISH IN A CONDITION DETRIMENTAL TO THE WORK, FOLLOWIND PLACEMENT OF TOPSOIL. THE SURFACE SHALL BE RAKED, ALL STONES, LUMPS, ROOTS, OR OTHER OBJECTIONAL MATERIAL SHALL BE REMOVED.
- SEED MIXTURES SHALL CONFORM TO THE SEED MIX TABLES SHOWN ON THIS SHEET AND BE SPREAD UNFORMLY IN ALL AREAS INDICATED ON THE PLANS AT THE SPECIFIED RATE. FOR SEEDING BETWEEN SEPTEMBER 1 AND OCTOBER 1, WINTER RYE SHALL BE OVERSEEDED AT AN APPLICATION RATE OF 100 POUNDS PER ACRE.
- FERTILIZER SHALL CONFORM TO THE STANDARDS OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS AND BE APPLIED ONLY AFTER PERFORMING A SOIL TEST AND BE APPLIED BASED UPON SOIL DETICENCIES. LIME SHALL ONLY SE APPLIED AS NEEDED BASED UPON A SOIL, BH TEST.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR A FULL GROWTH OF GRASS IN ALL DISTURBED AREAS TO BE REVEGETATED. VEGETATION GROWTH SHALL BE PERMANENT AND SUFFICIENT TO PREVENT REDGINO OF THE URBERTYING SOIL LUDGE ALL CONDITIONS OF PRECIDITATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND CARIND FOR SEEDED, MALCHED, AREAS OF ESTABLISHED VEGETATION LITHIC FIRM ACCEPTIANCE OF THE WORK BY THE COMMENTATION CANDIDATED.

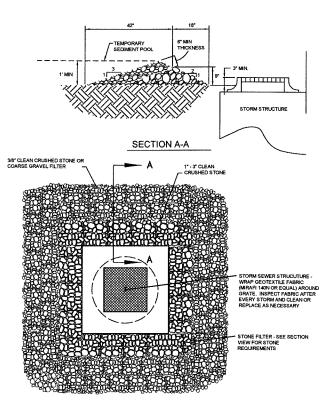
URBAN MIX GRASS SEED					
% BY WEIGHT	LBS. LIVE SEED PER ACRE	TYPE OF SEED			
37.5	45	CREEPING RED FESCUE			
31.25	37.5	KENTUCKY BLUEGRASS			
31.25	37,5	WINTER HARDY, PERENNIAL RYE			
100	100 120 # LIVE SEED PER ACRE				



# SHRUB PLANTING DETAIL







### PLAN VIEW

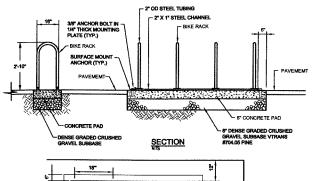
NOTES:

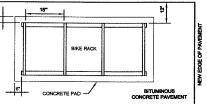
1. INLET PROTECTION TO BE PROVIDED AT ALL CATCHBASINS OR YARD INLETS.

2. THE STOME FILTER SHALL BE INSPECTED FOLLOWING EACH STORM. ACCUMALATED SEDMENTS SHALL BE REMOVED AND THE STOME REPLACED AS INCESSARY.

3. THE UNITS OF THE STOWE AROUND THE INLET MAY BE MODIFIED BY THE ENGINEER DEPENDING ON THE TOPOGRAPHY DIRECTION RUNOFF TO THE CATCHBASIN.

CATCH BASIN INLET PROTECTION

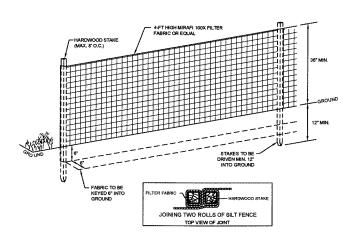




PLAN

2. BIKE RACKS SHALL BE POWDER COATED BLACK AND INCLUDE 4 OR 6 RACKS, AS INDICATED ON PLANS,

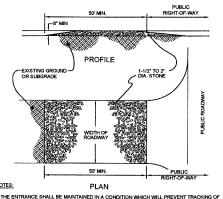
BIKE RACK DETAIL



NOTES

1) USE ONLY MANUAL METHODS OF INSTALLATION AND CLEANING WITHIN WETLAND AND BUFFER ZONE.
2) PRIOR TO BEGINNING OF CONSTRUCTION OR EARTH-MOVING, THE CONTRACTOR SHALL INSTALL A
CONTINUOUS SILT FEINCE AT THE LIMIT OF DISTURBANCE SHOWN ON THE SITE FUND.
3) FROZEN BAYERBAL SHALL NOT BE USED TO KEY IN THE BOTTOM OF THE SILT FEINCE. IF NECESSARY,
GRANJUAR BORROW SHALL BE USED BY THE CONTRACTOR TO KEY IN THE SILT FEINCE RATHER THAN
FROZEN BATTIVE MATERIAL. GRANIJAR BORROW SYML, BE USED BY THE SOUTH AND THE PERIMETER OF TOPSOIL STOCKPILES AND 4) THE CONTRACTOR SHALL INSTALL SILT FENCE AROUND THE PERIMETER OF TOPSOIL STOCKPILES AND AT OTHER LOCATIONS AS NEEDED.

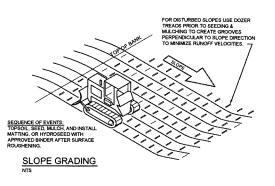
# TEMPORARY SILT FENCE

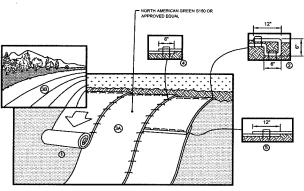


1. THE ENTRANCE SHALL BE MANTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDMENT ONTO PUBLIC RIGHTS-OF-MAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STORE AS CONDITIONS DEMAND AND REPAIR ANDORS CLEANAUT OF ANY MEASUR USED TO TRAP SEDMENT ALL SEDMENT TRACKED, SPILLED, OR WASHED ONTO PUBLIC RIGHTS-OF-MAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR. 2. THE USE OF CALCIUM CHLORIDE OR WATER MAY BE NECESSARY TO CONTROL DUST DURING THE SUMMER.

3. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC RIGHT-OF-WAY.

STABILIZED CONSTRUCTION EXIT





1. EROSION MATTING WILL BE USED ON SLOPES STEEPER THAN 3H;1V OR AS SHOWN ON THE PLANS

2. PREPARE SOIL BEFORE INSTALLING MATTING, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SESSION SOIL SURFACE SHALL BE GRADED SMOOTH WITHOUT ROOTS, STONES OR OTHER PROTUSIONS THAT WILL PREVENT THE MATTING FROM BEING APPLIED IN FULL CONTACT WITH THE SOIL SURFACE.

3. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE MATTING IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 17" OF MATTING EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH, ANCHOR THE MATTING WITH A ROW OF STATE DESTAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH, BACKFILL AND COMPACTED SOIL, AND FOLD REMAINING 12" PORTITOR AND COMPACTED SOIL AND FOLD REMAINING 12" PORTITOR OF MATTING BACK OVER SEED AND COMPACTED SOIL SECLIER BATTING OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" PART ACROSS THE WIDTH OF THE MATTING.

4. ROLL THE MATTING (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE, INSURE THAT THE APPROPRIATE SIDE OF THE MATTING IS AGAINST THE SOLI SURFACE. ALL MATTING MUST BE SCURELY FASTENED TO SOLI SURFACE BY PLACINGS TARELESSTAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE MANUFACTURERS STAPLE PLATTERN GUIDE FOR THE PARTICULAR PRODUCT AND APPLICATION, IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STARLE LENGTHS GREATET THAN 6" MAY SE NECESSART TO PROPERLY SECURE THE MATTING.

5. THE EDGES OF PARALLEL MATTING MUST BE STAPLED WITH APPROXIMATELY 6" OVERLAP DEPENDING ON MATTING TYPE.

6. CONSECUTIVE MATTING SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE - WITH THE UPPER MATTINS PLACED OVER THE TOP OF THE LOWER MATTING) WITH AN APPROXIMATE 12" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART A ROOSS ENTIRE MATTING WIDTH.

# EROSION MATTING FOR SLOPES

	5-24-11	ADD EASEMENT AND	CONVEYANO	E TO CITY	DLH
	4-4-11	REVISE LAYOUT			DLH
	10-29-10	REVISE LAYOUT			DLH
	8-26-10	GENERAL REVISIONS	PER COURT A	PPEAL	DLH
	<sub>4</sub> 9-11-09	REVISED PERVIOUS C	ONCRETE DE	TAILS	DLH
	7-13-09	REVISED LIGHTING A	ND LANDSCA	PING	DLH
	1-9-08 REVISED DRIVEWAY LAYOUT				DLH
	10-5-07				
	8-7-07	REVISED LAYOUT			DLH
	Date		Revision		By
	These pla	ns shall only be used for th	e purpose show	ı below:	
	Sk	etch/Concept		Act 250 Review	
		eliminary		Construction	
_	Fi:	nal Local Review		Record Drawing	
ō		Land	ds of		proj. no.
					07028
UCT	Ti	m Alles 8	& Bill	Ellis	07028 survey Others
STRUCT		m Alles &			survey Others design
NSTRUCT	Etha	n Allen Parkway,	Burlington	, Vermont	survey Others design DLH
CONSTRUCT	Etha A PLA	n Allen Parkway, NNED RESIDEN	Burlington	, Vermont	survey Others design
R CONSTRUCT	Etha A PLA	n Allen Parkway,	Burlington	, Vermont	survey Others design DLH drawn
FOR CONSTRUCT	Etha A PLA	n Allen Parkway, NNED RESIDEN	Burlington	, Vermont	Survey Others design DLH drawn SEA checked DJG
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NOT FOR CONSTRUCT	Etha A PLA	IN Allen Parkway, NNED RESIDENT INDSCAPINO DETAILS SPECIFIO	Burlington FIAL DEVE	, Vermont ELOPMENT DSION	survey Others design DLH drawn SEA checked DJG date 04/09/07 scale
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4-1-15 REVISED FOR PRELIMINARY RE-FILING TO CITY DLH

### 1.2 WATER MAIN PIPE MATERIALS:

DUCTILE IRON PIPE

Pipe shall be a minimum diameter of six inches (6") and conform to current AWWA C600 or ANSI Specification A21.51. Push-on joint pipe shall be minimum thickness Class 51.

Pipe shall be cement mortar-lined on the inside in accordance with AWNA C151.51 or ANSI Specification A21.4 coapt that the cement-lining thickness shall not be less than three-sixteerdrs inch (3/16\*). A plus tolerance of ne-sighths inch (12\*) will be permitted.

### 1.3 FITTINGS:

Duttile iron fittings shall be cement-lined, have 350 pounds working pressure, and be in accordance with AWWA C-104, C-110, C-111, C-135 for compact fittings. Mechanical joint ruts and both shall be high sterneth, low alkey steel per ANSIA 2-111. Duttile iron fittings larger than twelve inches (12) shall have a standed body irenth sequal because 260 cast iron fittings. Cast iron Class 250 fittings will be allowed in Seu of ductile iron fittings in sizes larger than theelve

alug retainer glands or an approved equal shall be used on all vertical bends and as shown on the plans.

1.4 GATE VALVE RESILIENT SEAT:

Gate valves shall be AWWA C 509 Standard Gate Valves with mechanical joints of sizes as required on the plans. Valves 172 and smaller shall be bubble tight, zero leakage at 200 pal working pressure. All valves shall be of cast or ductile into hook, parallel bress seats, non-rising stem, nackle sorror, clobble disk constitution with °C fing Sam Saals. All valves to be equipped with a valve box for a minimum of 5.9 of cover material. The gate valves shall open counter clockwise and be provided with a "2 square operating in at with narrow cast in metal to inflacted decident of opening."

Each valve shall have maker's name, pressure rating, and year in which manufactured cast on the body. Prior to shipment from the factory, each valve shall be tested by hydrostatic pressure equals to twice the specified working pressure. Burled valves shall be installed with a valve box. All gate valves shall be Mueller or equal.

### 1.5 VALVE BOYES:

Valve boxes are to be installed on all buried valves. The boxes shall be cast from with a a minimum five and one quarter land; (5.14%) installed on all buried valves. The boxes shall enclose the operating nut and the stuffing box of the valve. Valve boxes shall not transfer leads onto the valve. Coven shall be close fitting and directlipht with the top of the mink too. Coven shall be marked valver with an arrow indicating the direction of opening. Valve boxes shall be three piece, screw type manufactured by Kennedy figure 121 or equal.

### 1.6 FIRE HYDRANTS

All hydrants are to be 3-way, 5" minimum diameter and limited to the following makes:

Mueller Centurion figure A-423 or Kennedy Guardian K-81KA, and shall conform with AWWA C502.

Main Valve Opening: 5 1/4 inches
Nozzle Arrangement: Two 2 1/2 inch hose nozzles NST threads.

One 4 1/2 inch pumper nozzle NST threads

Iniet Connection: 6 inch mechanical joint, MEGA-LUG and thrust block Operating Nut: Standard 1\* perfago.
Direction of Opening: Counterclockwise
Color: Enameled hydrant red

Depth of Bury: Hydrant shall be installed to the manufacturer's instructions with nozzles about 18"-21" above finish grade.

### 1.7 HYDRANT BRANCHES:

Hydrant assembles shall consist of a six inch (6') mechanical joint gate valve conforming to AWWA C-509; a length of six inch (6') Class 51 ductile iron pipe with a cement-lining; and the fire hydrant. MEGA-LUG retainer glands or approved equal shall be used.

### 1.8 WATER SERVICE CONNECTION

The Contractor shall install three-fourths inch to two inch (3/4\*) copper type K services as indicated on the Contract Drawings or as directed by the Engineer, #Sach service shall consist of a corporation, curbstop, copper tubing, and a curb box with service red. Corporation shall be attached to the ducible into pibe by means of a direct base.

Corporations shall be Waterworks Brass and manufactured in accordance with AWWA C800. Corporations shall be have Mueller threads, adopted as AWWA Figure #1, at the Inite and a compression-type titing at the coded. Both indeed and coulded hall be of the same size. Corporations shall be used for all they larger than three-doubles inch (QV) in

Corporations shall be directly tapped into ductile iron pipe larger than two inches (2") in diameter. In no other instance, except when a tapping siever and varie is used, shall a tap be made and a corporation installed without the use of a tapping saddle. Corporations shall be Medier In-15000 or equal.

Curbstops shall be a quarter-turn, plug-type valve with an "O" ring-type seal and shall be manufactured of Waterwork Brass in accordance with AWWA CR00. The curbstop shall open left and have a positive step. No curbstop shall have the ability to destine this servicial line. Both inlet and outlined of the curbstop shall have compression-type fittings. The tee head of the curb- stop shall have provision for the connection of a service red. Curbstops shall be Muelter H-15200 or equal. (Muelter 200 Ball Valves are not acceptable).

Copper tubing shall by type "K", soft-temper, conforming to ASTM B88. The name or trademark of the manufacturer and type shall be stamped at regular intervals along the pipe.

Curb boxes shall be of the sliding adjustable-type capable of adjusting from five feet to six feet (5 · 6). The base of the box shall be arch-type so as to prevent the box from resting directly on the curbstop. The adjustable upper section shall be one inch (1") in diameter for use with three-fourths and one inch (14" and 1") curbstops. For larger curbstops, the upper section shall be one and one-fourths inches (1 14") in diameter.

Stationary rods affixed to the key of the curbstop shall be thirty inches (30") in length for three-fourths and one inch (34" and 1") curbstops and twenty-four inches (24") for larger curbstops. The cover of the box shall be by "Nawfer" with the No- hole over. The word "NAFER" shall be inscribed on the cover of the box. Both the cover and the upper section of the box shall be able to be located with an aqua-type motal locator.

### F. BUILDING SERVICE CONSTRUCTION METHODS

The Contractor shall make all necessary taps into the watermain and will install for each unit an approved brass corporation stop.

The Contractor shall also connect the type "K" copper service pipe to the flanged joint, which shall be connected to the brass type curbatop with inlet and outlet for the appropriate type "K" copper service pipe. Such curbatop shall be located not less than six feet (8') below the ground surface and shall be accessible from the surface through an approved valve by

Unit Connections: The unit connections shall be made by installing three-fourths inch (3/47) type N' copper pipe or approved equal on the end of the approved brass curbstop and proceeding through the cellar wall to an approved three-forths inch (3/47) maker spaces with spacifs furnished by the Marticelaysh and installed by the Contractor in

### 1.9 CONSTRUCTION METHODS

Ill pipe and fittings shall be inspected and tested in accordance with the manufacturer's specifications and the amendioned AWWA Specifications. The Contractor shall furnish for approval conflication from the pipe urfacturer that all tests have been performed with satisfactory results. Pipe shall not be installed without the "" A MANUFACTOR CONTRACTOR STATES AND ADMINISTRACTOR ADMINIS

Pipes, fittings, and accessories shall be centrially handled to avoid damage. Prior to the date of acceptance of the project work by the Owner, the Contractor shall replace any raw pipe or accessory found to be defective at any time, including after installation, at no expense to the Owner. All installation and testing shall be done in accordance with ANMA Standard G-OGO and ANSI Operations OR.2.11.

All pipes showing cracks shall be rejected. If cracks occur in the pipe, the Contractor may, at his own expense and with the approval of the Engineer, cut of the cracked portions at a point at least twelve inches (12) from the visible limits of the crack and use the sound portion of the pipe. All pipes and fittings shall be cleared of all foreign matter and debris prior to installation and shall be kept clean until the time of acceptance by the Owner.

At all times, when the pipe laying is not actually in progress, the open ends of the pipe shall be closed by temporary waterlight plugs or by other approved means. If water is in the tench when work is resumed, the plug shall not be removed until all danger of water entering the pipe has passed. The pipe shall be installed in trenches and at the line and grade shown on the Cortract Chawings.

Any deflection joints shall be within the limits specified by the manufacturer. All piping and appurtenances prosected to the equipment shall be supported so that no strain will be imposed on the equipment. If the equipment and refurctural 's people-factions include that piping loads are not to be transferred, disc Contactor shall submit and contact the contact of the contact

Concrete thrust blocks shall be installed on all plugs, tees, and bends deflecting 11 1/4 degrees or more. Care shall be taken to ensure that concrete will not come in contact with flanges, joints, or bolls. The required area of thrust blocks are inclinated on the plans or shall be as approved by the Engineer.

Whenever sewers cross under watermains, the watermain shall be laid at such an elevation that the bottom of the atermain is at least 18 inches above the top of the sewer. This vertical separation shall be maintained for that portion the watermain located within the feet (10) hoticatular of any entering consens.

There shall be no physical connection between the distribution system and any pipes, pumps, hydrants, or tanks which are supplied or may be supplied with a water that is, or may be, contaminated. In instances where the use of different types of pipe require joining, the Contractor shall furnish and install all necessary adaptars.

### All trenching safety standards shall be in conformance with all applicable State and Federal Guidelines.

The Contractor shall, at all times, keep the trenches entirely free of water until all work is finished and ready for backfilling. After the various pipelines have been installed, the trenches and other areas to be filled shall be backfilled it subgrade with, wherever possible, material excavated from the trench. No backfilling will be allowed until any concrete masonry has set sufficiently, as determined by the Engineer.

All material for backfilling shall be free of roots, stumps, and frost. Materials used for backfilling benches shall be free of stones weighing over 30 pounds. No stones measuring over one and one-half inches (1 1/2") in the longest dimension shall be placed within one foot (1) of the pipeline being backfilled.

Backfill for all pipelines shall be placed in six inch (6") layers, each layer being thoroughly compacted to not less than 59 percent of maximum dry density as determined by the AASHTO-T-69 Standard Proctor. Perticular precautions shall be taken in the placement and compaction of the backfill material in order not to damage the pipe or structure. The backfill shall be brought up every). All watermains shall be installed with a minimum cover depth of six (6).

Surplus excavated materials not used for backfill shall be disposed of in a manner satisfactory to the Engineer. All plus material or spoil shall be removed promptly and disposed of so as not to be objectionable to abutters or to the

The contractor shall provide a stable, temporary PVC marker approved by the Engineer at all gate valves, curb stops, and at the end of waterlines to a point six inches (6°) above firish grade. The marker shall be seated securely into the ground.

Except as otherwise directed, all pipelines shall be tested. Pipelines and in exception or bedded in concrete shall be tested prior to be tested prior to lead the tested prior to lead painting. The tested prior to lead painting, and the tested prior to lead painting. The Contractor shall furnish all gas uses, testing places. The testing place is the section of an approved length, Such 1 valved section or a maximum of one because flowt (f,000) of the pipe shall be tested. All water required for testing shall be polate. All testing shall be conducted in the presence of the Engineer.

For the pressure test, the Contractor shall develop and maintain 200 pounds per square inch for two hours. Fakure to hold the designated pressure for the No-hour period constitutes a fakure of the section tested. The leakage test shall be performed concurrently with the pressure test. During the test, the Contractor shall measure the quantity of water required to maintain the test pressure. Leakage shall not exceed the quantity given by:

### L = SD (Square root of P) / 148,000

All testing shall be conducted in accordance with AWWA C-600 latest revision. Should any section of the pipe fall offer the pressure or leakage tests, the Contractor shall do everything necessary to locate and repair or replace the defective beb. Ritings. or ionis at no excesse to the Company.

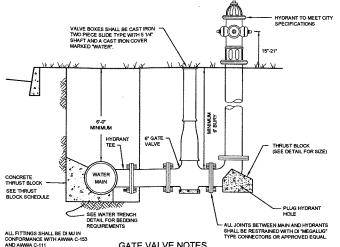
Chlorination of the watermain shall be conducted only after the main has been flushed and a clear stream is obtained as determined by the Engineer.

The method of disinfection shall be by the continuous feed method unless otherwise approved by the Engineer. After filling, flushing, and the addition of chlorine solution, the line chlorine concentration within the pipe shall be at least 25 mg/l. The chlorineted water shall remain in the main for a period of at least 24 hours. At the end of this period, the treated water in all portions of the main shall not have a selected in fest shall not find free decidence of the control of the chlorine. All distinfection shall be performed under the supervision of the Engineer. The distinction process shall be deemed acceptation only after (2) samples of water from the fushed, distinction than taken by the Engineer and tested at an approved laboratory show no evidence of bacteriological contamination. Distriction shall conform to the latest AWWA C-651 revision.

The pipeline and appurtenances shall be maintained in an uncontaminated condition until final acceptance. Disinfection shall be repeated when and where required at no expense to the Owner until final acceptance by the

### E. FROST PROTECTION OF SHALLOW WATERLINES

Waterlines with less than six feet (6) of cover over the crown, or where indicated on the plans, shall be protected against freezing by installation of two inch (2') thick Styrofoam SM insulating sheets with a total width of four feet (6) or twice the pipe diameter, whichever is greater. The sheets shall be pixed six inches (6') above the crown of the main after compaction of the six in (6') SII immediately above the count. Care shall be exceeded by the Contractor during backfill and compaction over the styrofoam sheets to prevent durings to the sheets. Styrofoam SM sheets shall meet the compressive stimetry nequirements of ACM to 10(51-7) and shall be as manadicated by [Owen Compressive stimetry nequirements of ACM to 10(51-7) and shall be as manadicated by Compressive stimetry nequirements of ACM to 10(51-7) and shall be as manadicated by [Owen Compressive stimetry nequirements of ACM to 10(51-7) and shall be as manadicated by [Owen Compressive stimetry nequirements of the post of the pipe.



<del>000000000</del>

HYDRANT DETAIL

ALL EXTERIOR NUTS & BOLTS SHALL BE 18-8 STAINLESS STEEL.

NOTES:

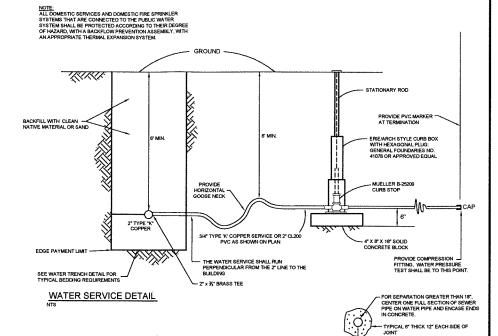
# GATE VALVE NOTES 1. GATE VALVES SHALL CONFORM TO AWAYA CS00.

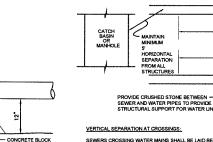
SPUT SLEEVE TAPPING SLEEVE TO BE APPROVED BY C.F.D. #3, STAINLESS STEEL SLEEVES NOT ALLOWED.

SIDE

- 2. THE GATE VALVES SHALL OPEN LEFT AND BE DESIGNED FOR A WORKING PRESSURE OF 200 PSI
- ALL GATE VALVES SHALL BE OF CAST OR DUCTILE IRON BODY, PARALLEL BRASS SEATS, NON-RISING STEM, INSIDE SCREW, RESILIENT WEDGE CONSTRUCTION WITH "O" RING STEM.
- 4. ALL VALVES SHALL BE EQUIPPED WITH A VALVE BOX FOR A MINIMUM OF 5 OF COVER MATERIAL

PROVIDE THRUST ---BLOCKS (SEE DETAIL)





### VERTICAL SEPARATION AT CROSSINGS:

SEWERS CROSSING WATER MAINS SHALL BE LAID BENEATH THE WATER MAIN WITH AT LEAST 18" VERTICAL CLEARANCE BETWEEN THE OUTSIDE OF THE SEWER AND THE OUTSIDE OF THE WATER MAIN. WHEN IT IS IMPOSSIBLE OR IMPRACTICAL TO MAINTAIN THE 18" VERTICAL SEPARATION OR WHERE THE SEWER MAIST BE LAID ABOVE THE WATER MAIN. THE FOLLOWING CRITERIA APPLY:

NEW WATERLINE

CENTER ONE LENGTH OF PIPE

CENTER ONE LENGTH OF PIPE OVER SEWER

18 MIN. 8

(A) THE CROSSINGS SHALL BE ARRANGED SO THAT ONE FULL LENGTH OF SEWER IS CENTERED ABOVE OR BELOW THE WATER LINE WITH SEWER JOINTS AS FAR AS POSSIBLE FROM WATER JOINTS;

(B) THE SEWER PIPE MUST BE CONSTRUCTED TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 20 FEET EITHER SIDE OF THE CROSSING OR A TOTAL OF THREE PIPE LENGTHS, WHICHEVER IS GREATER;

(C) THE SECTION CONSTRUCTED TO WATER MAIN STANDARDS MUST BE PRESSURE TESTED TO MAINTAIN 50 PSI FOR 15 MINUTES WITHOUT LEAKAGE PRIOR TO BACKFILLING BEYOND ONE FOOT ABOVE THE PIPE, TO ASSURE WATER TIGHTNESS;

(D) WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN. SEWER / WATER SEPARATION DETAIL FOR CROSSINGS

TAPPING VALVE and SLEEVE DETAIL

6. ALL EXTERIOR EXPOSED SURFACES SHALL BE FUSION BOND, EPOXY COATED TO A MINIMUM OF 10 MIL. THICKNESS

ALL BOLTS AND NUTS USED WITH ALL PIPE SLEEVES SHALL, UPON FINAL TIGHTENING AND TESTING, BE BRUSH COATED HEAVILY WITH BITUMASTIC COLD APPLIED MATERIAL TO THOROUGHLY COVER ALL EXPOSED SURFACES OF THE BOLTS

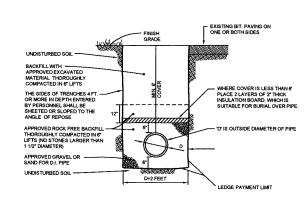
TAPPING VALVE

TAPPING SLEEVES SHALL BE OF THE SPLIT SLEEVE DESIGN CONSTRUCTED WITH TWO SOLID HALF-SLEEVES BOLTED TOGETHER SLEEVES SHALL BE CONSTRUCTED OF DUTILIE IRON, SHALL HAVE A WORKING PRESSURE OF AT LEAST 150 PSI, AND SHALL HAVE MCCHAROL, JOINT ENDS AND SIDE GASKET SEALS.

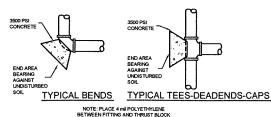
ALL IRON BODY TAPPING SLEEVES SHALL BE PROVIDED WITH A 34° NPT TEST PLUG, OR OTHER PROVISIONS MUST BE MADE FOR AIR TESTING THE VALVE AND SLEEVE AT MAXIMUM WORKING PRESSURE, PRIOR TO TAPPING.

3. ALL BOLTS AND NUTS FOR FLANGED JOINTS OF TAPPING SLEEVES SHALL BE OF AISC TYPE 304 STAINLESS STEEL

4 ALL EXTERIOR BOLTS AND NUTS FOR TAPPING SUFEVES OR VALVES SHALL BE STAINLESS STEEL



TYPICAL WATER TRENCH DETAIL



TAPPING VALVE

TAPPING VIALVE SHALL CONFORM TO ANSIMWIM 0509-87 STANDARD FOR RESIJIENT-SEALED GATE VALVES FOR WATER AND SEWAGE SYSTEMS, EXCEPT AS MODIFIED HEREIN VALVES SHALL OPEN COUNTERCLOCKINGS AND SHALL HAVE A MINIMUM WORKIND PRESSURE OF 70 7018-11, INJET FLANGES SHALL BE CLASS 125 CONFORMING TO ANSI SPECIFICATION BIST. OR ANSI/AWWA C110/A21.10, AND OUTLET CONNECTIONS SHALL BE STANDARDIZED MECHANICAL ON SHALL BY

BURIED TAPPING VALVES SHALL BE PROVIDED WITH A "SQUARE WRENCH NUT AND SHALL BE INSTALLED WITH A CAST IRON VALVE BOX AS REQUIRED TO ALLOW POSITIVE ACCESS TO THE VALVE OPERATING NUT AT ALL TIMES. IN INSTALLATIONS WHERE THE CEPTH FROM GRADE TO TOP OF VALVE IS THE MERER SHALL BE FROVEDED AND INSTALLED SUCH THAT THE DEPTH FROM VALVE STEM RISER SHALL BE FROVEDED AND INSTALLED SUCH THAT THE DEPTH FROM VALVE STEM RISER SHALL BE FROM 4"O" TO 6"O" (MINMAM LENGTH OF VALVE STEM RISER IS 2"O"). VALVE STEM RISER SHALL BE OF HIGH STRENGTH STEEL AND OF WELDED CONSTRUCTION.

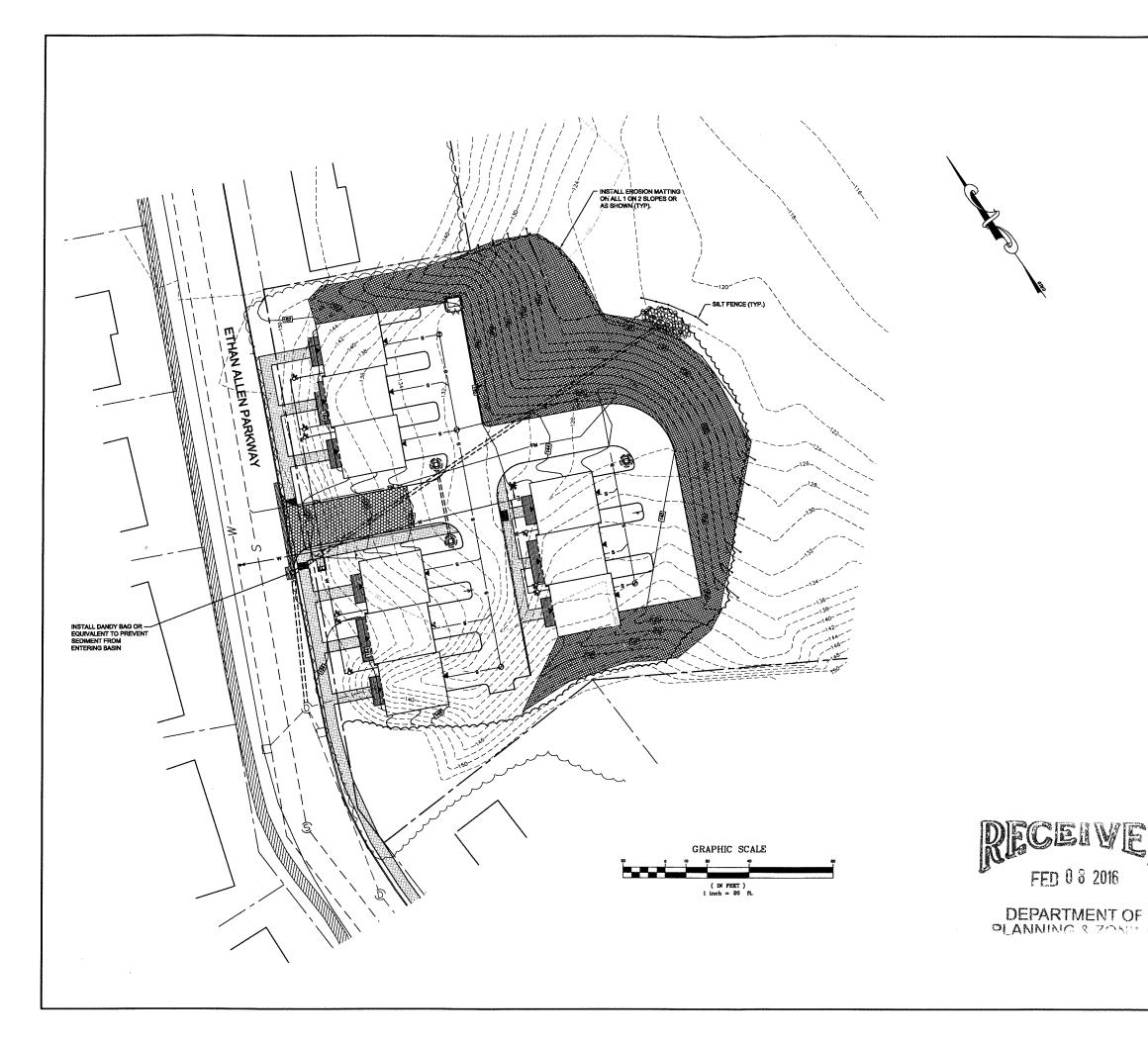
THRUST BLOCK END AREA					
SOIL TYPE - SAND					
SIZE	6'	8*	12"		
11/4 & 22 /2	2	2	5		
45*	2	4	9		
90"	4	8	17		
TEES OR END CAPS	3	6	12		
VALVES	2	2	2		
SQF	T BEAR	NG AREA			

BASED ON 100 PSI WORKING PRESSURE PLUS 100 PSI SURGE ALLOWANCE AND BEARING CAPACITY OF 2000 LBS/SQ FT

THRUST BLOCK DETAIL

	5-24-11	DLH	
	4-4-11	REVISE LAYOUT	DLH
	10-29-10	REVISE LAYOUT	DLH
	8-26-10	GENERAL REVISIONS PER COURT APPEAL	DLH
d.	9-11-09	REVISED PERVIOUS CONCRETE DETAILS	DLH
	7-13-09	REVISED LIGHTING AND LANDSCAPING	DLH
	1-9-08	REVISED DRIVEWAY LAYOUT	DLH
	10-5-07	REVISED LAYOUT	DLH
	8-7-07	REVISED LAYOUT	DLH
	Date	Revision	Ву
		ns shall only be used for the purpose shown below:	
-	Pr	etch/Concept         Act 250 Review           eliminary         Construction           nal Local Review         Record Drawing	
Į.		Lands of	proj. no. 07028
SC		m Alles & Bill Ellis	survey Others
ST	Etha	an Allen Parkway, Burlington, Vermont	design DLH
NOT FOR CONSTRUCTION	A PLA	NNED RESIDENTIAL DEVELOPMENT WATER	drawn SEA checked
Ö		DETAILS AND	DJG
-			date
욋		SPECIFICATIONS	04/09/07
			scale
		LAMOUREUX & DICKINSON	N.T.S.
		Consulting Engineers, Inc. 14 Morse Drive	sht. no.
		Essex Junction, VT 05452 Tel: 802-878-4450	10 of 11

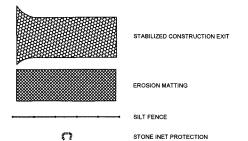
4-1-15 REVISED FOR PRELIMINARY RE-FILING TO CITY DLH





	PROJECT BOUNDARY
	PROPERTY LINE
	SIDELINE OF EASEMENT
	BUILDING SETBACK
N/F	NOW OR FORMERLY
-110	EXISTNG GROUND CONTOUR
*×* <del>*</del> -*-	EXISTING WATER LINE, GATE VALVE & HYDRAN
-s	EXISTING SANITARY SEWER LINE & MANHOLE
	EXISTING STORM LINE AND CATCH BASIN
www	NEW TREE LINE
*	NEW STREET LIGHT
_+ <del>_</del>	NEW WATER LINE, GATE VALVE AND HYDRANT
-s	NEW SANITARY SEWER LINE AND MANHOLE
	NEW STORM LINE AND CATCH BASIN
9	PROPOSED UNIT NUMBER

# EPSC LEGEND



| 1-25-16 | REVISED PER TECHNICAL REVIEW NOTES | 5-24-11 | ADD EASEMENT AND CONVEYANCE TO CITY | 4-4-11 | REVISE LAYOUT | DLH DLH DLH 10-29-10 8-26-10 DLH REVISE LAYOUT DLH GENERAL REVISIONS PER COURT APPEAL DLH DLH REVISED PERVIOUS CONCRETE DETAILS 7-13-09 1-9-08 10-5-07 REVISED DRIVEWAY LAYOUT REVISED LAYOUT DLH DLH DLH By REVISED LAYOUT

These plans shall only be used for the purpose shown below

Sketch/Concept Act 2

Preliminary Const

Final Local Review Recor Act 250 Review
Construction
Record Drawing

Tim Alles & Bill Ellis Ethan Allen Parkway, Burlington, Vermont A PLANNED RESIDENTIAL DEVELOPMENT

**EROSION PREVENTION &** SEDIMENT CONTROL PLAN



1" = 20' sht. no. **11** of 11



